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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/727,642	12/05/2003	Michael Redecker	P56987	9637

7590

07/12/2006

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Suite 300  
1522 K Street, N.W.  
Washington, DC 20005

EXAMINER

THOMPSON, CAMIE S

ART UNIT PAPER NUMBER

1774

DATE MAILED: 07/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/727,642

Applicant(s)

REDECKER, MICHAEL

Examiner

Camie S. Thompson

Art Unit

1774

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on Amendment filed 4/28/2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 4-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,4-11,14 and 22 is/are rejected.
- 7) ☒ Claim(s) 12,13,15-20 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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### DETAILED ACTION

1. Applicant's amendment and accompanying remarks filed April 28, 2006 have been acknowledged.
2. Examiner acknowledges amended claim 1.
3. Examiner acknowledges cancelled claims 2-3.
4. Examiner acknowledges newly added claims 21-22.

### *Claim Rejections - 35 USC § 102*

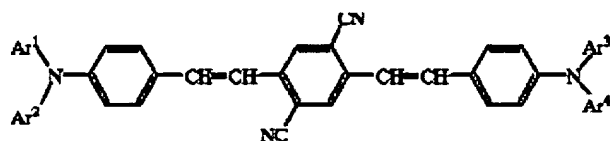
5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 5-10, 14 and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Ichimura et al., U.S. Patent Number 6,337,167.

Ichimura discloses a chemical compound with the structure



Ar<sup>1</sup> to Ar<sup>4</sup> can be

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General formula (7):



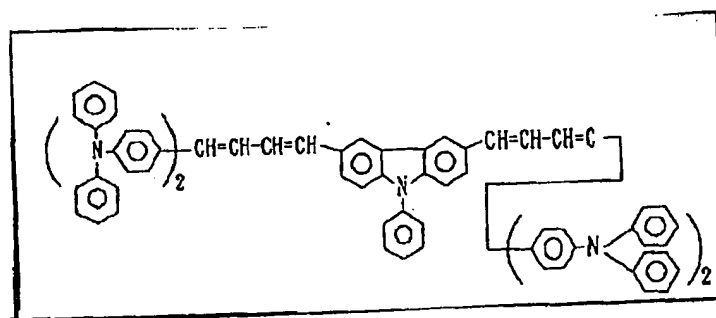
wherein n is an integer from 0 to 5 (see columns 6 and 7). The reference reads on the instant claims when the electron donor group is an unsubstituted triphenylamine when n is 0; the



conjugated bridging element is and the electron acceptor group is a para-dicyano phenyl. The reference also discloses that  $R^{61}$  is a hydrocarbon group with 1 to 4 carbon atoms (methyl) as per instant claim 5 when n is 1. The reference also discloses that the chemical compound can be used in an electroluminescent display device.

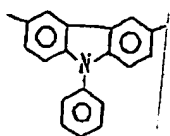
7. Claims 1 and 4-9 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 05-281761.

The Japanese reference discloses a compound with the structure

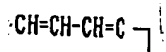


The reference reads on the instant claims when

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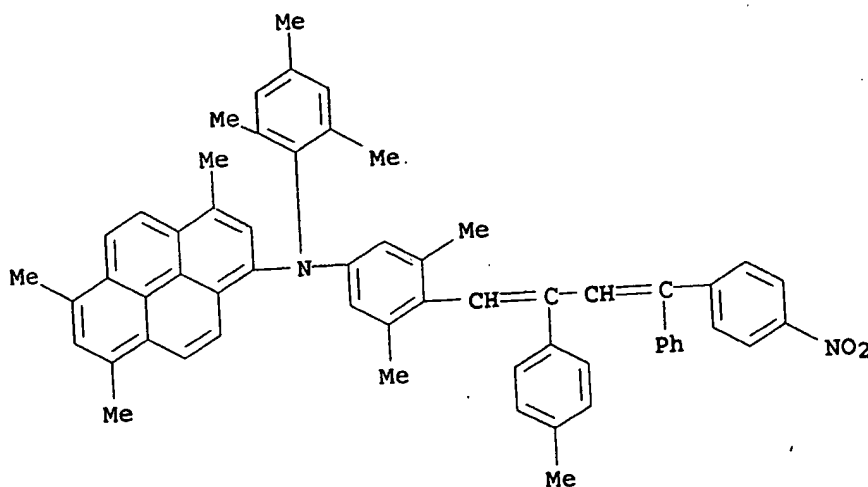
is an electron donor group; the bridging element is



and the electron acceptor group is a fused cyclic ring such as carbazole.

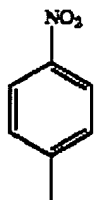
8. Claims 1, 6-9, 11, 14 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 10-161329.

The Japanese reference discloses a compound with the structure



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The reference reads on the instant claims when the electron donor group is the fused cyclic ring; the bridging element comprising a pi-bridging element is the phenyl group and the electron

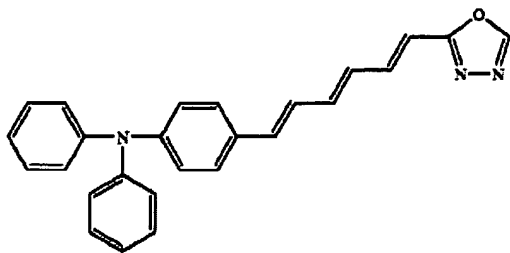


acceptor group is

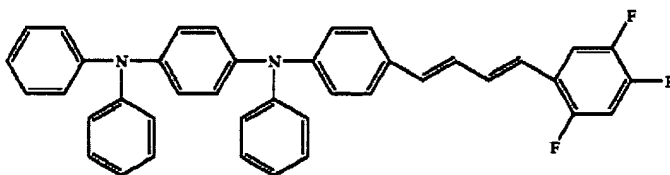
Claims 12-13 and 15-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art does not provide for the recited chemical compound, further including the compound being selected from the group consisting of the following compounds of formulas 4a through 4c:

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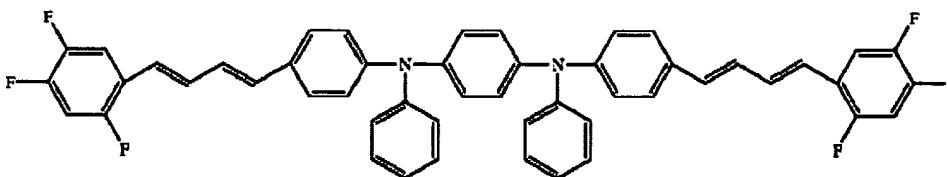
[Formula 4a]



[Formula 4b]

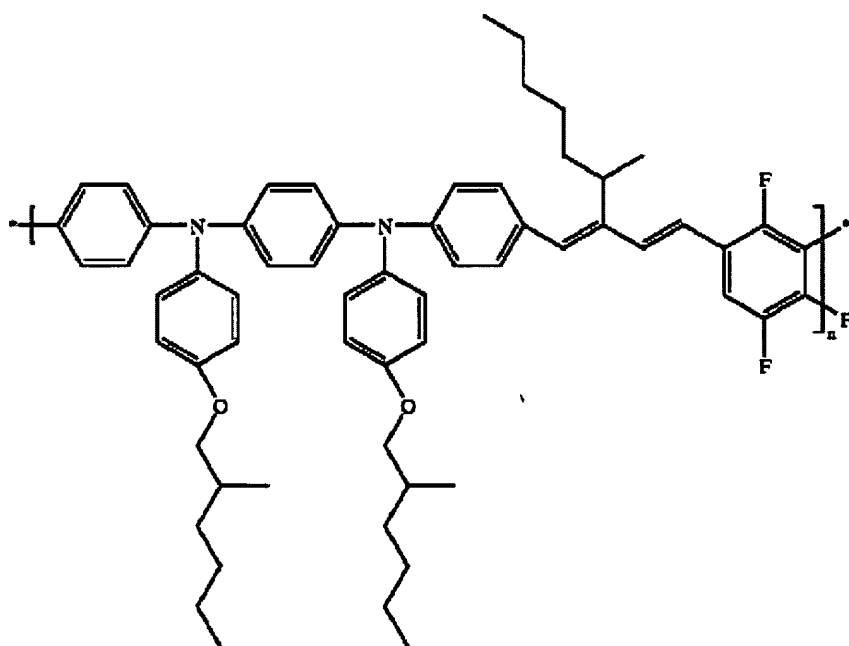
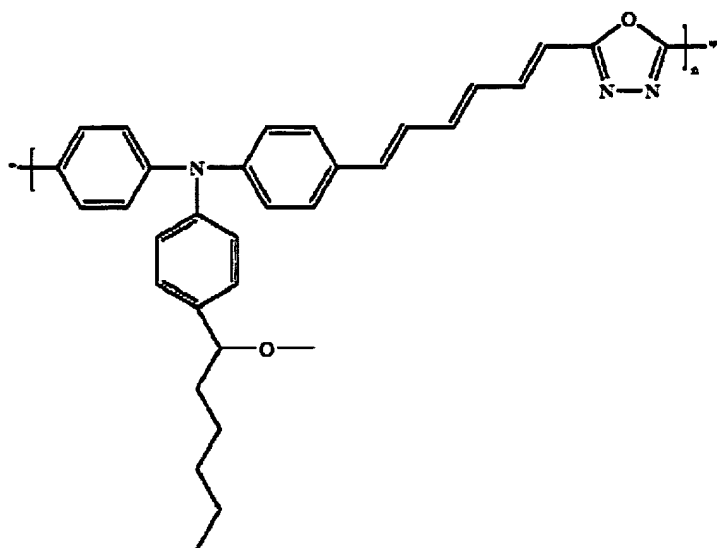


[Formula 4c]

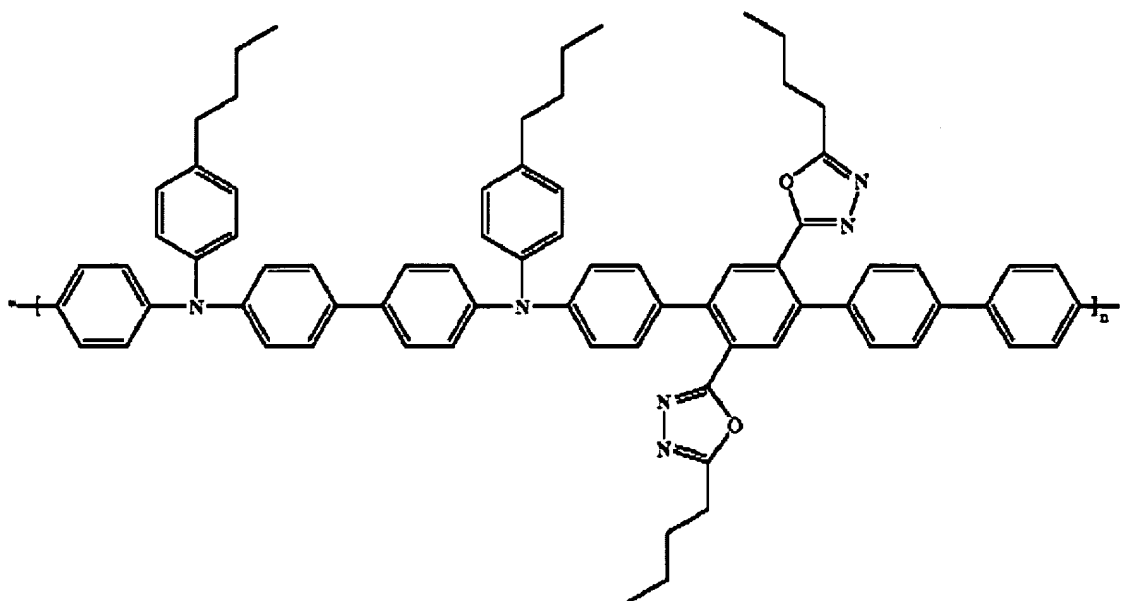


The prior art does not provide for the recited compound, further including the compound being selected from the group consisting of the following compounds of formula 5a through 5c:

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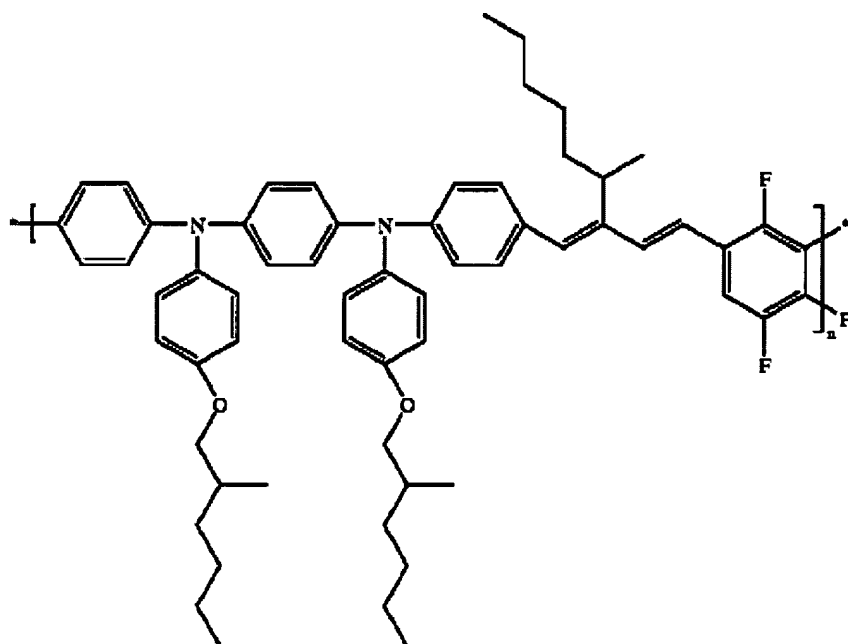
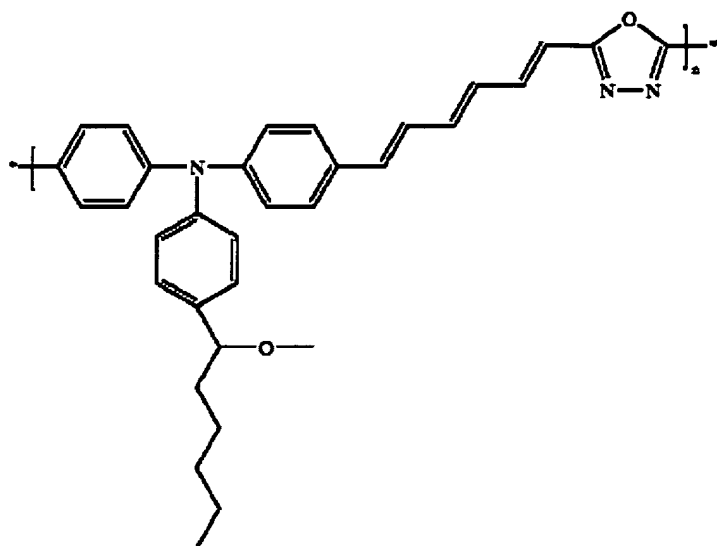


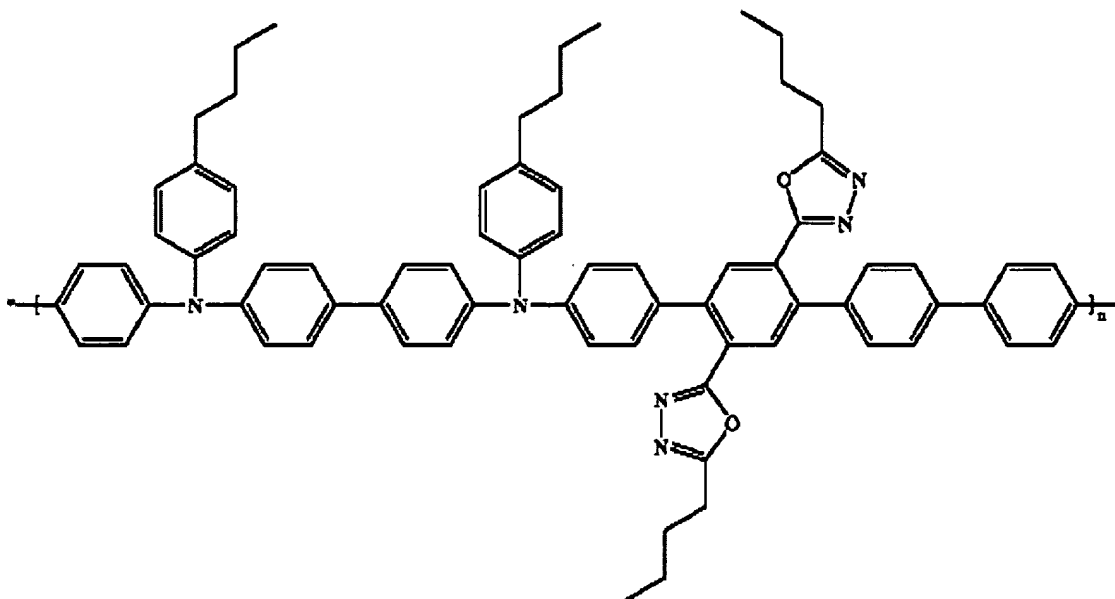




wherein n is a number ranging from 100 to 2,000. Also, the prior art does not provide for the recited chemical compound, further including the conjugated bridging element is a polymer having a main chain and a branched or side chain having an alkyl group or an alkoxy group. The prior art does not provide for a photoluminescence quenching device comprising the recited chemical compound wherein the device comprises a layer of polyethylenedioxythiophene/polystyrenesulfonic acid and an emitter polymer layer having a material selected from the group consisting of the following compounds:

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wherein n is a number ranging from 100 to 2,000. Also, the prior art does not provide for a photoluminescence quenching device comprising the recited compound.


### *Response to Arguments*

9. Applicant's arguments filed April 28, 2006 have been fully considered but they are not persuasive. Applicant argues that the Ichimura reference does not read on the instant claims. Ichimura reads on instant claim when the electron donor group is an unsubstituted triphenylamine as disclosed in columns 6 and 7 of the reference. Also, applicant argues that the reference does not read on instant claim 5. The reference reads on instant claim 5 when n is 1 and R<sup>61</sup> is methyl. Applicant argues that claim 10 is dependent upon claim 9. In the previous office action, examiner inadvertently objected to claim 9 rather than to reject claim 9. The Ichimura reference discloses a para-dicyanophenyl (disubstituted phenyl) as the electron acceptor group. Due to claim 9 being inadvertently left out of the rejection, this action is NON-FINAL.

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Any inquiry concerning this communication or earlier communication from the examiner should be directed to Camie S. Thompson whose telephone number is (571) 272-1530. The examiner can normally be reached on Monday through Friday from 7:30 am to 4:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena L. Dye, can be reached at (571) 272-3186. The fax phone number for the Group is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
RENA DYE  
SUPERVISORY PATENT EXAMINER  
A.U. 1774 7/10/04